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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/074,544	02/14/2002	Radislav Alexandrovich Potyrailo	RD-28490	6317

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GENERAL ELECTRIC COMPANY  
GLOBAL RESEARCH  
PATENT DOCKET RM. BLDG. K1-4A59  
NISKAYUNA, NY 12309

EXAMINER

MARSCHER, ARDIN H

ART UNIT	PAPER NUMBER
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1631

DATE MAILED: 09/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary****Application No.**

10/074,544

**Applicant(s)**

POTYRAILO ET AL.

**Examiner**

Ardin Marschel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-54 is/are pending in the application.
- 4a) Of the above claim(s) 1-11 and 26-54 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 12-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-54 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 5 sheets.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

Applicant's election of Group II (claims 12-25) in the reply filed on 7/6/04 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

### **TITLE**

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. The elected invention is only directed to a method of enhancing stability and selectivity of an a plurality of sensors but, in contrast, the present title is directed not only to a method as well as apparatus but also to rapid evaluation... which is not the practice of the elected invention.

### **ABSTRACT**

The abstract of the disclosure is objected to because it exceeds 150 words. A shortened abstract is required on its own separate sheet of paper. Correction is required. See MPEP § 608.01(b).

### **NON-STATUTORY SUBJECT MATTER**

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 12 and 14 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The olfactory system which is present in a naturally occurring nose, brain, etc. of the human body processes smells from the environment to produce measurable output parameters which are measured in

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the human brain as also practiced in instant claim 12. This is summarized in FIGURE 24.2 on page 566 of Persaud et al. (1997) to specifically document this natural phenomenon. Such natural phenomenon is non-statutory subject matter. See the MPEP in section 2105 which summarizes natural phenomena as non-statutory subject matter.

### **VAGUENESS AND INDEFINITENESS**

Claims 12-25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The preamble in line 1 of claim 12 indicates that the method is directed to enhancing stability and selectivity of each of a plurality of sensors. In contrast, none of the actual claim steps in any of claims 12-25 are directed to either of such enhancements. Therefore, it is unclear whether the metes and bounds of the claim practice is controlled by said preamble or the actual and different claim steps. Clarification via clearer claim wording is requested.

Claim 25 is additionally vague and indefinite due to citing "the analyte-removing source" which lacks antecedent basis in claims from which it depends. Clarification via clearer claim wording is requested.

### **PRIOR ART**

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 12-17, 19, and 20 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Persaud et al. (1997).

Persaud et al. discloses a number of array sensors which contain a plurality of sensors which, when modulated with a material to be sensed, measurably changes a sensitive material to produce an output which is correlated to the degree to which the environmental sensed material is present. On page 573, first through fourth full paragraphs, one such array sensor is disclosed which operates via temperature differences to sense various chemicals as an embodiment of claims 12, 14, 19, and 20. The sensing of such chemicals must occur via mass addition via contact with the sensors as in claim 15. The arrays in the said fourth full paragraph sense via resistance change which is functionally a conductance change as required in instant claim 17 as an embodiment. On page 574, last full paragraph, quartz resonator arrays with up to eight different sensors are described with frequency changes parameter output as the measured parameter as in instant claim 17. Surface acoustic wave arrays are described on page 575, first paragraph, which utilizes a SAW sensor as in instant claim 13. An increase in mass corresponding to sensing is also cited in said page 575

paragraph as in instant claim 15. Although not specifically described regarding the surface acoustic wave sensor on page 575 such waves are inherently sensed via material elasticity vs. viscosity characteristics therein as cited in instant claim 16. Conductance variation as well as capacitance measurement for array sensor output is described for such arrays on page 575, last two full paragraphs, in the practice of gas detector arrays as also embodiments of instant claim 17.

Claims 12, 18, and 24 are rejected under 35 U.S.C. 102(b) and (e)(2) as being clearly anticipated by Harpster (P/N 4,942,763).

Harpster discloses an array of flow sensors in column 6, line 57, through column 8, line 46, wherein the method of modulating a sensor array with flow is set forth with output correlated with the flow. This methodology is required in instant claim 18 which is also an embodiment of instant claim 12 thus anticipating these claims. These sensors are applied to gas flow measurement as summarized in column 1, lines 5-49, as background of the invention which at least directs the invention fluid flow measurement methodology to gas types of fluid. This gas flow measurement is also described in said column 1 citation as being directed to gases that have been filtered thus also anticipating the cleaned gas flow embodiment of instant claim 24.

Claims 12, 17, and 20-23 are rejected under 35 U.S.C. 102(a) and (e)(2) as being clearly anticipated by Frederick et al. (P/N 6,288,975).

Frederick et al. summarizes an acoustic sensing system in the abstract that utilizes a plurality of sensors which therefore qualifies as an array of sensors as set forth in the instant claims. The abstract also indicates that sensing occurs via modulation

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frequencies which is a predetermined function as in instant claim 20. Modulation frequency practice is described in column 2, lines 52-67, of the reference wherein the signals are detected due to being of the sinusoidal type is disclosed in column 11, lines 49-60. The sinusoidal array signals are described as being demodulated over a functional time period as also an embodiment of instant claims 12, 17, and 20-23.

No claim is allowed.

Papers related to this application may be submitted to Technical Center 1600 by facsimile transmission. Papers should be faxed to Technical Center 1600 via the Central PTO Fax Center. The faxing of such papers must conform with the notices published in the Official Gazette, 1096 OG 30 (November 15, 1988), 1156 OG 61 (November 16, 1993), and 1157 OG 94 (December 28, 1993)(See 37 CFR § 1.6(d)). The Central PTO Fax Center number is (703) 872-9306.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ardin Marschel, Ph.D., whose telephone number is (571) 272-0718. The examiner can normally be reached on Monday-Friday from 8 A.M. to 4 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Woodward, Ph.D., can be reached on (571) 272-0722.

Any inquiry of a general nature or relating to the status of this application should be directed to Legal Instrument Examiner, Tina Plunkett, whose telephone number is (571) 272-0549.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

September 26, 2004

*Ardin Marschel*  
9/26/04